

## IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for preparing  $\alpha$ -olefins having from 3 to 16 carbon atoms by catalytically cleaving 1-alkoxyalkanes, ~~characterized in that~~ wherein the cleavage is carried out over alumina and/or zirconia ~~containing~~ comprising from 0.01 to 10% by weight of at least one alkali metal and/or alkaline earth metal oxide.

Claim 2 (Currently Amended): The process as claimed in claim 1, ~~characterized in that~~ wherein the alkali metal oxide ~~used~~ is potassium oxide and/or sodium oxide.

Claim 3 (Currently Amended): The process as claimed in claim 1 ~~or 2~~, ~~characterized in that~~ wherein the alkaline earth metal oxide ~~used~~ is strontium oxide, magnesium oxide and/or barium oxide.

Claim 4 (Currently Amended): The process as claimed in ~~claims 1 to 3~~ claim 1, ~~characterized in that~~ wherein the catalyst additionally ~~contains~~ comprises from 0.01 to 5% by weight of titanium oxide, silicon dioxide and/or thorium oxide.

Claim 5 (Currently Amended): The process as claimed in ~~one of claims 1 to 4~~ claim 1, ~~characterized in that~~ wherein the catalytic cleavage is carried out up to a conversion of from 10 to 95%.

Claim 6 (Currently Amended): The process as claimed in ~~one of claims 1 to 5~~ claim 1, ~~characterized in that~~ wherein the cleavage is carried out in the gas phase.

Claim 7 (Currently Amended): The process as claimed in ~~one of claims 1 to 6~~ claim 1, ~~characterized in that~~ wherein the cleavage is carried out at a temperature of from 100 to 600°C.

Claim 8 (Currently Amended): The process as claimed in ~~one of claims 1 to 7~~ claim 1, ~~characterized in that~~ wherein 1-methoxyoctane, 1-ethoxyoctane, tert-butyl methyl ether, tert-amyl methyl ether, tert amyl ethyl ether or tert-amyl butyl ether is cleaved to the corresponding  $\alpha$ -olefins and alcohols.